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CLAIMS

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1. Recombinant baculovirus having a baculovirus envelope protein, comprising a heterologous nucleic acid sequence encoding a product of therapeutic interest for the treatment of diseases of the nervous system.

2. Baculovirus according to claim 1, characterized in that the heterologous nucleic acid sequence is an antisense sequence or gene.

3. Baculovirus according to claim 2, characterized in that the heterologous nucleic acid sequence is a gene encoding a product of therapeutic interest chosen from hormones, lymphokines, growth factors, enzymes for synthesizing neurotransmitters, trophic factors, proteins involved in the metabolism of amino acids, lipids or carbohydrates.

4. Baculovirus according to claim 3, characterized in that the trophic factors are chosen from members of the neurotrophin family such as NGF, BDNF, NT3, NT4/5, NT6, members of the CNTF family such as CNTF, axokine, LIF, IL6, cardiotrophin, GDNF, members of the IGF family such as IGF-1 and IFGF-2, members of the FGF family such as FGF 1, 2, 3, 4, 5, 6, 7, 8, 9, and TGF-β.

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5. Recombinant baculovirus characterized in that it comprises a heterologous nucleic acid encoding β-glucuronidase.

6. Recombinant baculovirus according to claim 5, characterized in that it is a baculovirus expressing an envelope protein other than that of baculoviruses.

7. Baculovirus according to claim 6, characterized in that the envelope protein is the glycoprotein of the rabies virus or the glycoprotein of VSV (Vesicular Stomatitis Virus).

8. Recombinant baculovirus according to one of claims 1 to 7, characterized in that it also comprises promoter sequences allowing the expression of the heterologous nucleic acid sequence.

9. Baculovirus according to claim 8, characterized in that the promoter sequence is chosen from the promoters of the NSE (Neuron Specific Enolase), NF (Neurofilament), TH (Tyrosine Hydroxylase), DAT (Dopamine Transporter), ChAT (Choline Acetyl Transferase), DBH (Dopamine β-Hydroxylase), TPH (Tryptophan Hydroxylase), GAD (Glutamic Acid Dehydrogenase) and GFAP (Glial Fibrillary Acidic Protein) genes.

10. Recombinant baculovirus according to one of claims 1 to 9, characterized in that it also

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comprises signal sequences which make it possible to induce secretion of the therapeutic product.

11. Use of a recombinant baculovirus according to one of claims 1 to 10 for the preparation of a pharmaceutical composition intended for the treatment of diseases of the nervous system.

12. Use of a recombinant baculovirus according to claim 11, characterized in that the heterologous nucleic acid sequence is an antisense sequence or gene.

13. Use of a recombinant baculovirus according to claim 12, characterized in that the heterologous nucleic acid sequence is a gene encoding a product of therapeutic interest chosen from hormones, lymphokines, growth factors, enzymes for synthesizing neurotransmitters, trophic factors, proteins involved in the metabolism of amino acids, lipids or carbohydrates.

14. Use of a recombinant baculovirus according to claim 13, characterized in that the trophic factors are chosen from members of the neurotrophin family such as NGF, BDNF, NT3, NT4/5 and NT6, members of the CNTF family such as CNTF, axokine, LIF, IL6, cardiotrophin, GDNF, members of the IGF family such as IGF-1 and IFGF-2, members of the FGF

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family such as FGF 1, 2, 3, 4, 5, 6, 7, 8, 9, and TGF-β.

15. Use of a recombinant baculovirus according to claim 13, characterized in that the gene encoding a product of therapeutic interest is the gene encoding β-glucuronidase.

16. Population of cells of the human nervous system (e.g. brain, spinal cord, neural, glial or ependymal cells), which is infected with one or more recombinant baculoviruses according to one of claims 1 to 10.

17. Implant comprising human cells infected with one or more recombinant baculoviruses according to one of claims 1 to 10.

18. Pharmaceutical composition comprising one or more recombinant baculoviruses according to one of claims 1 to 10, in combination with a pharmaceutically acceptable vehicle.

19. Use of cells infected ex vivo with a recombinant baculovirus comprising a heterologous nucleic acid encoding a product of therapeutic interest, for the preparation of a composition intended for implantation in vivo.

20. Use according to claim 19, characterized in that the cells are encapsidated in an inert system.

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21. Use of a recombinant baculovirus comprising a heterologous nucleic acid encoding a product of therapeutic interest, for the preparation of a composition intended for the transfer of the said product into the nervous system in vivo by intramuscular administration and retrograde transport.

22. Use of a recombinant baculovirus having a baculovirus envelope protein and comprising a heterologous nucleic acid encoding a product of therapeutic interest, for the preparation of a composition intended for administration in vivo.

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